UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/842,370	04/25/2001	Oren Wiesler	PRI-134XX	·6576

			EXAMINER
207	7590	01/25/2005	CHEN, CHONGSHAN

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ART UNIT	PAPER NUMBER
2162	

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Please find below and/or attached an Office communication concerning this application or proceeding.

	Application No.	Applicant(s)
	09/842,370	WIESLER ET AL.
Office Action Summary	Examiner	Art Unit	
	Chongshan Chen	2162	

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address* --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on _17 September 2004_.

2a) ☐ This action is **FINAL**.   2b) ☒ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) _1-33_ is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) _1-33_ is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
    Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other: _____.

DETAILED ACTION

1.   This action is responsive to Amendment filed on 17 September 2004. Claims 1-33 are

pending.

Response to Arguments

2.   Applicant's arguments, filed on 17 September 2004, with respect to the rejection(s)of

claim(s) 1-3, 11, 15-22 and 30 under 103(a) have been fully considered and are persuasive.

Therefore, the rejection has been withdrawn. However, upon further consideration, a new

ground(s) of rejection is made in view of Goh et al. (US 6,466,945 B1). Please see the detailed

rejection below.

Claim Rejections - 35 USC § 103

3.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in
> section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are
> such that the subject matter as a whole would have been obvious at the time the invention was made to a person
> having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the
> manner in which the invention was made.

4.   Claims 1-3, 11, 15-22 and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable

over Lambson et al. (hereinafter "Lambson", "Automated reticle transport and stepper loading",

Solid State Technology, V39, n10, p97, Oct. 1996, ISSN: 0038-111X) in view of Goh et al.

(hereinafter "Goh", US 6,466,945 B1).

        As per claim 1, Lambson discloses an apparatus for managing data corresponding to a

plurality of reticles in a semiconductor manufacturing system comprising:

a stocker including a stocker database, a stocker controller communicably coupled to the

stocker database and communicably coupled to the reticle management controller, and a plurality

of storage locations configured and arranged to store at least one of the plurality of reticles, the

stocker controller being configured and arranged to store at least a portion of the data

corresponding to the at least one of the plurality of reticles stored within the plurality of storage

locations within the stocker database (Lambson, page 1-5),

wherein the data associated with the plurality of reticles includes first and second data,

portions of the first data being associated with respective ones of the plurality of reticles, and

portions of the second data being associated with more than one of the plurality of reticles

(Lambson, page 1-5).

Lambson does not explicitly disclose a central reticle database configured and arranged to

store data associated with the plurality of reticles; a reticle management controller communicably

coupled to the central reticle database, the reticle management controller configured and

arranged to store data in the central reticle database, and to retrieve data from the central reticle

database; wherein the reticle management controller is configured and arranged to retrieve at

least a portion of the first and second data stored within the central reticle database and to

provide the retrieved data portion to the stocker controller, the stocker controller being

configured and arranged to store the retrieved data portion within the stocker database, and

wherein the reticle management controller is further configured and arranged to manipulate and

to maintain the plurality of reticles based on one or more portions of the second data associated

with more than one of the plurality of reticles. Goh discloses a central reticle database

configured and arranged to store data associated with the plurality of reticles; a reticle

management controller communicably coupled to the central reticle database, the reticle

management controller configured and arranged to store data in the central reticle database, and

to retrieve data from the central reticle database; wherein the reticle management controller is

configured and arranged to retrieve at least a portion of the first and second data stored within

the central reticle database and to provide the retrieved data portion to the stocker controller, the

stocker controller being configured and arranged to store the retrieved data portion within the

stocker database, and wherein the reticle management controller is further configured and

arranged to manipulate and to maintain the plurality of reticles based on one or more portions of

the second data associated with more than one of the plurality of reticles (Goh, col. 3, lines 12-

56). Therefore, it would have been obvious to one of ordinary skill in the art at the time the

invention was made to modify the semiconductor manufacturing system of Lambson by

incorporating a central reticle database as disclosed by Goh (Goh, col. 3, lines 12-56). The

motivation being to enable the semiconductor manufacture to store reticle information in a

central database for easy management.

As per claim 2, Lambson and Goh teach all the claimed subject matters as discussed in

claim 1, and further disclose the portions of the first data corresponding to each of the plurality

of reticles stored in the central reticle database includes a plurality of reticle identifying data

(Goh, col. 3, lines 12-56).

As per claim 3, Lambson and Goh teach all the claimed subject matters as discussed in

claim 2, and further disclose the plurality of reticle identifying data includes an attribute

identifying the reticle; an attribute identifying the location of the reticle (Goh, col. 3, lines 12-

56).

As per claim 11, Lambson and Goh teach all the claimed subject matters as discussed in claim 1, and further disclose a central system database configured and arranged to store portions of the second data corresponding to system requirements of the plurality of reticles, wherein the reticle management controller is communicably coupled to the central system database, the reticle management controller being configured and arranged to store and to retrieve the system data from the central system database (Goh, col. 3, lines 12-56).

As per claim 15, Lambson and Goh teach all the claimed subject matters as discussed in claim 1, and further disclose a plurality of stockers, each of the plurality of stockers including a stocker controller communicably coupled to the reticle management controller, a stocker database, and a plurality of storage locations configured and arranged to store at least one of the plurality of reticles, the stocker controller configured and arranged to collect at least a portion of the first and second data, and to store the at least a portion of the first and second data within the stocker database, wherein the reticle management controller is configured and arranged to receive at least a portion of the first and second data from each of the plurality of stocker controllers, and to provide at least a portion of the first and second data to each of the plurality of stocker controllers (Lambson, page 1-5).

As per claim 16, Lambson discloses an apparatus for managing a plurality of reticles in a semiconductor manufacturing system comprising:

a stocker unit including a stocker database, a stocker controller communicably coupled to the stocker database and communicably couple to the reticle management controller, and a plurality of storage locations configured and arranged to store at least one of the plurality of reticles (Lambson, page 1-5),

wherein the data corresponding to the plurality of reticles includes first and second data,

portions of the first data corresponding to respective ones of the plurality of reticles, and portions

of the second data corresponding to more than one of the plurality of reticles (Lambson, page 1-

5);

wherein the reticle management controller is configured and arranged to retrieve at least a

portion of the first and second data stored within the central reticle database and to provide the

retrieved data portion to the stocker controller, the stocker controller being configured and

arranged to store the retrieved data portion within the stocker database (Lambson, page 1-5);

a reticle moving system communicably coupled to the reticle management controller, the

reticle moving system being configured and arranged to load a reticle at a respective stocker unit

and to deliver the loaded reticle to a destination (Lambson, page 1-2),

wherein the reticle management controller is configured and arranged to provide one or

more move commands to the reticle move system, the reticle move system being configured and

arranged to receive the one or more move commands and being operative to execute the one or

more move commands (Lambson, page 1-2).

Lambson does not explicitly disclose a central reticle database configured and arranged to

store data corresponding to the plurality of reticles; a reticle management controller

communicably coupled to the central reticle database, the reticle management controller

configured and arranged to store data in the central reticle database, and to retrieve data from the

central database. Goh teaches a central reticle database configured and arranged to store data

corresponding to the plurality of reticles; a reticle management controller communicably coupled

to the central reticle database, the reticle management controller configured and arranged to store

data in the central reticle database, and to retrieve data from the central database (Goh, col. 3,

lines 12-56). Therefore, it would have been obvious to one of ordinary skill in the art at the time

the invention was made to modify the semiconductor manufacturing system of Lambson by

incorporating a central reticle database as disclosed by Goh (Goh, col. 3, lines 12-56). The

motivation being to enable the semiconductor manufacture to store reticle information in a

central database for easy management.

As per claim 17, Lambson and Goh teach all the claimed subject matters as discussed in

claim 16, and further disclose the one or more move commands includes a command to store at a

second stocker unit a reticle currently stored at a first stocker unit (Lambson, page 1-2).

As per claim 18, Lambson and Goh teach all the claimed subject matters as discussed in

claim 16, and further disclose the one or more move commands includes a command to retrieve a

reticle from a respective stocker unit (Lambson, page 1-2).

As per claim 19, Lambson and Goh teach all the claimed subject matters as discussed in

claim 16, and further disclose the one or more move commands includes a command to retrieve a

reticle from a respective stocker unit, to move the reticle to a first stocker unit different from the

respective stocker unit, and to store the reticle at the first stocker unit (Lambson, page 1-2).

As per claim 20, Lambson teaches an apparatus for managing data corresponding to a

plurality of reticles in a semiconductor manufacturing system comprising:

a reticle database configured and arranged to store data associated with the plurality of

reticles (Lambson, page 1-5); and

a reticle management controller communicably coupled to the reticle database, the reticle

management controller configured and arranged to store data in the central reticle database, and

to retrieve data from the reticle database (Lambson, page 1-5),

wherein the data associated with the plurality of reticles includes first and second data,

portions of the first data being associated with respective ones of the plurality of reticles, and

portions of the second data being associated with more than one of the plurality of reticles

(Lambson, page 1-5).

Lambson does not explicitly disclose the reticle database is a central reticle database.

Goh discloses a central database in a semiconductor system (Goh, col. 3, lines 12-56).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention

was made to modify the semiconductor manufacturing system of Lambson by incorporating a

central reticle database as disclosed by Goh (Goh, col. 3, lines 12-56). The motivation being to

enable the semiconductor manufacture to store reticle information in a central database for easy

management.

Claims 21-22 are rejected on grounds corresponding to the reasons given above for

claims 2-3.

Claim 30 is rejected on grounds corresponding to the reasons given above for claim 11.

5.   Claims 4-10, 12-14, 23-29 and 31-33 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Lambson et al. (hereinafter "Lambson", "Automated reticle transport and

stepper loading", Solid State Technology, V39, n10, p97, Oct. 1996, ISSN: 0038-111X) in view

of Goh et al. (hereinafter "Goh", US 6,466,945 B1) and further in view of "PRI Automation

Announces New Combination Reticle Stocker", ("PRI", PR Newswire, p9143, Oct 26, 1999).

As per claim 4, Lambson and Goh teach all the claimed subject matters as discussed in claim 3, except for explicitly disclosing an attribute identifying a reticle carrier housing the reticle; an attribute identifying a the date and time the reticle was entered into use; and an attribute identifying a user identifier who created the reticle. PRI discloses a reticle management system for complete reticle lifecycle management (PRI, page 1-2, "The Combination Reticle Stocker can be integrated with PRI's TransNet(TM) Reticle Management System (TRMS) for complete reticle lifecycle management. The TRMS is a fab-wide, Web-enabled software control system that manages usage, kitting and unkitting, delivery and maintenance of reticles. The TRMS also integrate configurable business rules for optimized inventory control ..."). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the Lambson and Goh's combined reticle management system by incorporating attributes such as an attribute identifying a reticle carrier housing the reticle; an attribute identifying a the date and time the reticle was entered into use; and an attribute identifying a user identifier who created the reticle in the reticle management system. The motivation being to track the reticle lifecycle information for better management and maintenance of the reticle.

As per claim 5, Lambson and Goh teach all the claimed subject matters as discussed in claim 1, except for explicitly disclosing the portions of the first data corresponding to each of the plurality of reticles stored in the central reticle database includes a plurality of reticle history data. PRI discloses the data corresponding to each of the plurality of reticles stored in the central reticle database includes a plurality of reticle history data (PRI, page 1-2). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to

modify the Lambson and Goh's combined reticle management system by incorporating reticle

history data as disclosed by PRI. The motivation being to track the reticle lifecycle information

for better management and maintenance of the reticle.

As per claim 6, Lambson and Goh teach all the claimed subject matters as discussed in

claim 1, except for explicitly disclosing an attribute identifying the number of times the reticle

has been retrieved; an attribute identifying the date the reticle was last retrieved; an attribute

identifying the number of times the reticle has been stored; and an attribute identifying the date

the reticle was last stored. PRI discloses a reticle management system for complete reticle

lifecycle management (PRI, page 1-2). Therefore, it would have been obvious to one of ordinary

skill in the art at the time the invention was made to modify the Lambson and Goh's combined

reticle management system by incorporating attributes such as an attribute identifying the

number of times the reticle has been retrieved; an attribute identifying the date the reticle was

last retrieved; an attribute identifying the number of times the reticle has been stored; and an

attribute identifying the date the reticle was last stored. The motivation being to track the reticle

lifecycle information for better management and maintenance of the reticle.

As per claim 7, Lambson and Goh teach all the claimed subject matters as discussed in

claim 1, except for explicitly disclosing an attribute identifying a user identifier who last selected

the reticle; and an attribute identifying a user identifier who last stored the reticle. PRI discloses

a reticle management system for complete reticle lifecycle management (PRI, page 1-2).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention

was made to modify the Lambson and Goh's combined reticle management system by

incorporating attributes such as an attribute identifying a user identifier who last selected the

reticle; and an attribute identifying a user identifier who last stored the reticle. The motivation being to track the reticle lifecycle information for better management and maintenance of the reticle.

As per claim 8, Lambson and Goh teach all the claimed subject matters as discussed in claim 1, except for explicitly disclosing the data corresponding to each of the plurality of reticles stored in the central reticle database includes a plurality of reticle maintenance data. PRI discloses the data corresponding to each of the plurality of reticles stored in the central reticle database includes a plurality of reticle maintenance data (PRI, page 1-2). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the Lambson and Goh's combined reticle management system by incorporating reticle maintenance data as disclosed by PRI. The motivation being to track the reticle lifecycle information for better management and maintenance of the reticle.

As per claim 9, Lambson and Goh teach all the claimed subject matters as discussed in claim 8, except for explicitly disclosing a plurality of reticle maintenance data includes: an attribute identifying the number of times the reticle has been cleaned; an attribute identifying the date on which the reticle was last cleaned; an attribute identifying the number of times the reticle was inspected; and an attribute identifying the date on which the reticle was last inspected. PRI discloses a reticle management system for complete reticle lifecycle management (PRI, page 1-2). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the Lambson and Goh's combined reticle management system by incorporating attributes such as an attribute identifying the number of times the reticle has been cleaned; an attribute identifying the date on which the reticle was last cleaned; an

attribute identifying the number of times the reticle was inspected; and an attribute identifying

the date on which the reticle was last inspected. The motivation being to track the reticle

lifecycle information for better management and maintenance of the reticle.

As per claim 10, Lambson and Goh teach all the claimed subject matters as discussed in

claim 9, except for explicitly disclosing an attribute identifying a user identifier who last cleaned

the reticle; an attribute identifying a location where the reticle was last cleaned; an attribute

identifying a user identifier who last inspected the reticle; and an attribute identifying a location

where the reticle was last inspected. PRI discloses a reticle management system for complete

reticle lifecycle management and reticle cleaning (PRI, page 1-2). Therefore, it would have been

obvious to one of ordinary skill in the art at the time the invention was made to modify the

Lambson and Goh's combined reticle management system by incorporating attributes such as an

attribute identifying a user identifier who last cleaned the reticle; an attribute identifying a

location where the reticle was last cleaned; an attribute identifying a user identifier who last

inspected the reticle; and an attribute identifying a location where the reticle was last inspected.

The motivation being to track the reticle lifecycle information for better management and

maintenance of the reticle.

As per claim 12, Lambson and Goh teach all the claimed subject matters as discussed in

claim 11, except for explicitly disclosing an attribute identifying the maximum number of

cleanings of a reticle; an attribute identifying the maximum number of inspections of a reticle;

an attribute identifying the maximum number of uses of a reticle between inspections; and an

attribute identifying the maximum number of uses of a reticle between cleaning. PRI discloses a

reticle management system for complete reticle lifecycle management and reticle cleaning (PRI,

page 1-2). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the Lambson and Goh's combined reticle management system by incorporating attributes such as an attribute identifying the maximum number of cleanings of a reticle; an attribute identifying the maximum number of inspections of a reticle; an attribute identifying the maximum number of uses of a reticle between inspections; and an attribute identifying the maximum number of uses of a reticle between cleaning. The motivation being to track the reticle lifecycle information for better management and maintenance of the reticle.

As per claim 13, Lambson and Goh teach all the claimed subject matters as discussed in claim 11, except for explicitly disclosing an attribute identifying the maximum time between inspections of a bare reticle; and an attribute identifying the maximum time between cleanings of a bare reticle. PRI discloses a reticle management system for complete reticle lifecycle management and reticle cleaning (PRI, page 1-2). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the Lambson and Goh's combined reticle management system by incorporating attributes such as an attribute identifying the maximum time between inspections of a bare reticle; and an attribute identifying the maximum time between cleanings of a bare reticle. The motivation being to track the reticle lifecycle information for better management and maintenance of the reticle.

As per claim 14, Lambson and Goh teach all the claimed subject matters as discussed in claim 11, except for explicitly disclosing an attribute identifying the maximum time between inspections of a kitted reticle; and an attribute identifying the maximum time between cleanings of a kitted reticle. PRI discloses a reticle management system for complete reticle lifecycle management and reticle cleaning (PRI, page 1-2). Therefore, it would have been obvious to one

of ordinary skill in the art at the time the invention was made to modify the Lambson and Goh's

combined reticle management system by incorporating attributes such as an attribute identifying

the maximum time between inspections of a kitted reticle; and an attribute identifying the

maximum time between cleanings of a kitted reticle. The motivation being to track the reticle

lifecycle information for better management and maintenance of the reticle.

Claims 23-29 are rejected on grounds corresponding to the reasons given above for

claims 4-10.

Claims 31-33 are rejected on grounds corresponding to the reasons given above for

claims 12-14.

Conclusion

6.   The prior art made of record and not relied upon is considered pertinent to applicant's

disclosure.

La et al. (5,761,064) disclose a defect management system for productivity and yield

improvement.

Assessment of the performance of a reticle stocker with integrated database and the

productivity gain obtained in a submicron ASIC waferfab,

http://www.sea.rl.ac.uk/OldSEA/oldpubs/Retimatic/

Denise Dillon Harris, Automated Reticle Management Increases Efficiency, Throughput,

and Capital Investment Utilization,

http://www.semiconductorfabtech.com/features/lithography/articles/body3.195.php3

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chongshan Chen whose telephone number is (571)272-4031. The examiner can normally be reached on Monday - Friday (8:00 am - 4:30 pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John E Breene can be reached on (571)272-4107. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Chongshan Chen
January 19, 2005

JEAN M. CORRIELUS
PRIMARY EXAMINER